**11**. A telecommunications network according to claim 10, characterized in that the vibration modulation includes using a speech encoding algorithm .

**12**. A telecommunications network according to claim 10, characterized in that the software-based signal processor responds to user adjustable vibration defining parameters.

**13**. A telecommunications network according to claim 12, characterized in that the user adjustable vibration defining parameters include direct numerical parameters.

**14**. A telecommunications network according to claim 12, characterized in that the user adjustable vibration defining parameters include a pre-set list of parameters.

**15**. A telecommunications network according to claim 1, characterized in that the vibrotactile actuator is an electromechanical actuator.

**16**. A telecommunications network according to claim 1, characterized in that the vibrotactile actuator is suitably arranged in a housing of the mobile phone for providing vibration on the user's fingers.

**17**. A telecommunications network according to claim 1, characterized in that the vibrotactile actuator is suitably arranged in a housing of the mobile phone for providing vibration on the user's facial skin.

**18**. A telecommunications network according to claim 1, characterized in that the vibrotactile actuator is suitably arranged in a housing of the mobile phone for providing vibration on the user's wrist.

**19**. A telecommunications network according to claim 1, characterized in that the vibrotactile actuator is suitably arranged in a housing of the mobile phone for providing vibration on the user's cheek.

**20**. A telecommunications network according to claim 1, characterized in that the vibrotactile actuator is an acoustic actuator suitably sized for fitting into a user's ear.

**21**. A telecommunications network according to claim 3, characterized in that the telecommunications network includes a separately-priced vibrotactile service network.

**22**. A telecommunications network according to claim 3, characterized in that the audio-to-vibrotactile converter includes a personalized hearing parameters module for adjusting speech processing so a user can have personalized hearing parameters.

**23**. A telecommunications network according to claim 22, characterized in that the personalized hearing parameters can either be selected by a trial-and-error basis, preset values or personalized values given by a user's physician.

**24**. A telecommunications network according to claim 4, characterized in that the telecommunications signal contains information about the incoming speech that is a source for vibration modulation.

**25**. A telecommunications network according to claim 1, characterized in that the telecommunications network uses an F0-format for speech encoding to assist in interpreting incoming speech in noisy environments.

**26**. A mobile phone comprising:

an audio-modulated vibrotactile module that responds to a telecommunications signal containing information about incoming speech from a called/calling party, for providing an audio-modulated vibrotactile module force containing information about the incoming speech from the called/calling party to vibrate a user's fingers, facial skin, wrist, cheek or other suitable location;

the audio-modulated vibrotactile module having an audio-to-vibrotactile converter that responds to the telecommunications signal, for providing an audio-to-vibrotactile converter signal containing information about a vibration modulation of the incoming speech from the called/calling party; and

the audio-modulated vibrotactile module also having a vibrotactile actuator that responds to the audio-to-vibrotactile converter signal, for providing the audio-modulated vibrotactile module force in the form of a vibrotactile actuator force.

**27**. A method comprising the steps of:

converting a telecommunications signal containing information about incoming speech from a called/calling party into an audio-to-vibrotactile converter signal containing information about a vibration modulation of the incoming speech from the called/calling party; and

transforming the audio-to-vibrotactile converter signal into an audio-modulated vibrotactile module force containing information about the incoming speech from the called/calling party to vibrate a user's fingers, facial skin, wrist, cheek or other suitable location.

**28**. A method according to claim 27, characterized in that the step of converting includes performing vibration modulation using frequency domain filtering or equalization.

**29**. A method according to claim 27, characterized in that the step of converting includes performing vibration modulation using linear/non-linear amplification.

**30**. A method according to claim 27, characterized in that the step of converting includes performing vibration modulation using mixing speech signals with other signals .

**31**. A method according to claim 27, characterized in that the step of converting includes performing vibration modulation using a speech encoding algorithm.

**32**. A method according to claim 26, characterized in that the step of transforming includes electromechanically actuating the audio-modulated vibrotactile module force.

**33**. A method according to claim 26, characterized in that the step of transforming includes acoustically actuating the audio-modulated vibrotactile module force.

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